



111025-173 US2.ST25

SEQUENCE LISTING

<110> Felsch, Jason S.
Annis, David Allen
Kalghatgi, Krishna
Nash, Huw M.

<120> Affinity Selection-Based Screening of Hydrophobic Proteins

<130> 111025.173 US2

<140> 10/029,009

<141> 2001-12-19

<150> US 60/258,970

<151> 2000-12-29

<160> 34

<170> FastSEQ for Windows Version 4.0

<210> 1

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> epitope FLAG tag sequence

<400> 1

Asp Tyr Lys Asp Asp Asp Asp Lys
1 5

<210> 2

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> epitope EE tag sequence

<400> 2

Glu Glu Glu Glu Tyr Met Pro Met Glu
1 5

<210> 3

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> epitope hemagglutinin tag sequence

<400> 3

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Tyr Pro Tyr Asp Val Pro Asp Tyr Ala
 1 5

<210> 4
 <211> 12
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> epitope epitope MYC tag sequence

<400> 4
 Lys His Lys Leu Glu Gln Leu Arg Asn Ser Gly Ala
 1 5 10

<210> 5
 <211> 11
 <212> PRT
 <213> Herpes simplex virus

<400> 5
 Gln Pro Glu Leu Ala Pro Glu Asp Pro Glu Asp .
 1 5 10

<210> 6
 <211> 39
 <212> PRT
 <213> Rhodopsin

<400> 6
 Met Asn Gly Thr Glu Gly Pro Asn Phe Tyr Val Pro Phe Ser Asn Lys
 1 5 10 15
 Thr Gly Val Val Arg Ser Pro Phe Glu Ala Pro Gln Tyr Tyr Leu Ala
 20 25 30
 Glu Pro Trp Gln Phe Ser Met
 35

<210> 7
 <211> 488
 <212> PRT
 <213> Human

<400> 7
 Met Lys His Lys Leu Glu Gln Leu Arg Asn Ser Gly Ala Glu Glu Glu
 1 5 10 15
 Glu Tyr Met Pro Met Glu Met Asn Asn Ser Thr Asn Ser Ser Asn Asn
 20 25 30
 Ser Leu Ala Leu Thr Ser Pro Tyr Lys Thr Phe Glu Val Val Phe Ile
 35 40 45
 Val Leu Val Ala Gly Ser Leu Ser Leu Val Thr Ile Ile Gly Asn Ile
 50 55 60
 Leu Val Met Val Ser Ile Lys Val Asn Arg His Leu Gln Thr Val Asn
 65 70 75 80

```

Asn Tyr Phe Leu Phe Ser Leu Ala Cys Ala Asp Leu Ile Ile Gly Val
      85                      90                      95
Phe Ser Met Asn Leu Tyr Thr Leu Tyr Thr Val Ile Gly Tyr Trp Pro
      100                    105                    110
Leu Gly Pro Val Val Cys Asp Leu Trp Leu Ala Leu Asp Tyr Val Val
      115                    120                    125
Ser Asn Ala Ser Val Met Asn Leu Leu Ile Ile Ser Phe Asp Arg Tyr
      130                    135                    140
Phe Cys Val Thr Lys Pro Leu Thr Tyr Pro Val Lys Arg Thr Thr Lys
      145                    150                    155                    160
Met Ala Gly Met Met Ile Ala Ala Ala Trp Val Leu Ser Phe Ile Leu
      165                    170                    175
Trp Ala Pro Ala Ile Leu Phe Trp Gln Phe Ile Val Gly Val Arg Thr
      180                    185                    190
Val Glu Asp Gly Glu Cys Tyr Ile Gln Phe Phe Ser Asn Ala Ala Val
      195                    200                    205
Thr Phe Gly Thr Ala Ile Ala Ala Phe Tyr Leu Pro Val Ile Ile Met
      210                    215                    220
Thr Val Leu Tyr Trp His Ile Ser Arg Ala Ser Lys Ser Arg Ile Lys
      225                    230                    235                    240
Lys Asp Lys Lys Glu Pro Val Ala Asn Gln Asp Pro Val Ser Pro Ser
      245                    250                    255
Leu Val Gln Gly Arg Ile Val Lys Pro Asn Asn Asn Asn Met Pro Ser
      260                    265                    270
Ser Asp Asp Gly Leu Glu His Asn Lys Ile Gln Asn Gly Lys Ala Pro
      275                    280                    285
Arg Asp Pro Val Thr Glu Asn Cys Val Gln Gly Glu Glu Lys Glu Ser
      290                    295                    300
Ser Asn Asp Ser Thr Ser Val Ser Ala Val Ala Ser Asn Met Arg Asp
      305                    310                    315                    320
Asp Glu Ile Thr Gln Asp Glu Asn Thr Val Ser Thr Ser Leu Gly His
      325                    330                    335
Ser Lys Asp Glu Asn Ser Lys Gln Thr Cys Ile Arg Ile Gly Thr Lys
      340                    345                    350
Thr Pro Lys Ser Asp Ser Cys Thr Pro Thr Asn Thr Thr Val Glu Val
      355                    360                    365
Val Gly Ser Ser Gly Gln Asn Gly Asp Glu Lys Gln Asn Ile Val Ala
      370                    375                    380
Arg Lys Ile Val Lys Met Thr Lys Gln Pro Ala Lys Lys Lys Pro Pro
      385                    390                    395                    400
Pro Ser Arg Glu Lys Lys Val Thr Arg Thr Ile Leu Ala Ile Leu Leu
      405                    410                    415
Ala Phe Ile Ile Thr Trp Ala Pro Tyr Asn Val Met Val Leu Ile Asn
      420                    425                    430
Thr Phe Cys Ala Pro Cys Ile Pro Asn Thr Val Trp Thr Ile Gly Tyr
      435                    440                    445
Trp Leu Cys Tyr Ile Asn Ser Thr Ile Asn Pro Ala Cys Tyr Ala Leu
      450                    455                    460
Cys Asn Ala Thr Phe Lys Lys Thr Phe Lys His Leu Leu Met Cys His
      465                    470                    475                    480
Tyr Lys Asn Ile Gly Ala Thr Arg
      485

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<210> 8

<211> 431

<212> PRT

<213> Human

<400> 8

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Met Asp Tyr Lys Asp Asp Asp Asp Lys Met Gly Gln Pro Gly Asn Gly
 1          5          10          15
Ser Ala Phe Leu Leu Ala Pro Asn Arg Ser His Ala Pro Asp His Asp
          20          25          30
Val Thr Gln Gln Arg Asp Glu Val Trp Val Val Gly Met Gly Ile Val
          35          40          45
Met Ser Leu Ile Val Leu Ala Ile Val Phe Gly Asn Val Leu Val Ile
          50          55          60
Thr Ala Ile Ala Lys Phe Glu Arg Leu Gln Thr Val Thr Asn Tyr Phe
65          70          75          80
Ile Thr Ser Leu Ala Cys Ala Asp Leu Val Met Gly Leu Ala Val Val
          85          90          95
Pro Phe Gly Ala Ala His Ile Leu Met Lys Met Trp Thr Phe Gly Asn
          100          105          110
Phe Trp Cys Glu Phe Trp Thr Ser Ile Asp Val Leu Cys Val Thr Ala
          115          120          125
Ser Ile Glu Thr Leu Cys Val Ile Ala Val Asp Arg Tyr Phe Ala Ile
          130          135          140
Thr Ser Pro Phe Lys Tyr Gln Ser Leu Leu Thr Lys Asn Lys Ala Arg
145          150          155          160
Val Ile Ile Leu Met Val Trp Ile Val Ser Gly Leu Thr Ser Phe Leu
          165          170          175
Pro Ile Gln Met His Trp Tyr Arg Ala Thr His Gln Glu Ala Ile Asn
          180          185          190
Cys Tyr Ala Asn Glu Thr Cys Cys Asp Phe Phe Thr Asn Gln Ala Tyr
          195          200          205
Ala Ile Ala Ser Ser Ile Val Ser Phe Tyr Val Pro Leu Val Ile Met
          210          215          220
Val Phe Val Tyr Ser Arg Val Phe Gln Glu Ala Lys Arg Gln Leu Gln
225          230          235          240
Lys Ile Asp Lys Ser Glu Gly Arg Phe His Val Gln Asn Leu Ser Gln
          245          250          255
Val Glu Gln Asp Gly Arg Thr Gly His Gly Leu Arg Arg Ser Ser Lys
          260          265          270
Phe Cys Leu Lys Glu His Lys Ala Leu Lys Thr Leu Gly Ile Ile Met
          275          280          285
Gly Thr Phe Thr Leu Cys Trp Leu Pro Phe Phe Ile Val Asn Ile Val
          290          295          300
His Val Ile Gln Asp Asn Leu Ile Arg Lys Glu Val Tyr Ile Leu Leu
305          310          315          320
Asn Trp Ile Gly Tyr Val Asn Ser Gly Phe Asn Pro Leu Ile Tyr Cys
          325          330          335
Arg Ser Pro Asp Phe Arg Ile Ala Phe Gln Glu Leu Leu Cys Leu Arg
          340          345          350
Arg Ser Ser Leu Lys Ala Tyr Gly Asn Gly Tyr Ser Ser Asn Gly Asn
          355          360          365
Thr Gly Glu Gln Ser Gly Tyr His Val Glu Gln Glu Lys Glu Asn Lys
          370          375          380
Leu Leu Cys Glu Asp Leu Pro Gly Thr Glu Asp Phe Val Gly His Gln
385          390          395          400
Gly Thr Val Pro Ser Asp Asn Ile Asp Ser Gln Gly Arg Asn Cys Ser
          405          410          415
Thr Asn Asp Ser Leu Leu Glu Glu Glu Glu Tyr Met Pro Met Glu
          420          425          430

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<210> 9
 <211> 488
 <212> PRT
 <213> Human

<400> 9

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Met Ala Thr Leu Pro Ala Ala Glu Thr Trp Ile Asp Gly Gly Gly Gly
 1          5          10          15
Val Gly Ala Asp Ala Val Asn Leu Thr Ala Ser Leu Ala Ala Gly Ala
      20          25          30
Ala Thr Gly Ala Val Glu Thr Gly Trp Leu Gln Leu Leu Asp Gln Ala
      35          40          45
Gly Asn Leu Ser Ser Ser Pro Ser Ala Leu Gly Leu Pro Val Ala Ser
      50          55          60
Pro Ala Pro Ser Gln Pro Trp Ala Asn Leu Thr Asn Gln Phe Val Gln
      65          70          75          80
Pro Ser Trp Arg Ile Ala Leu Trp Ser Leu Ala Tyr Gly Val Val Val
      85          90          95
Ala Val Ala Val Leu Gly Asn Leu Ile Val Ile Trp Ile Ile Leu Ala
      100          105          110
His Lys Arg Met Arg Thr Val Thr Asn Tyr Phe Leu Val Asn Leu Ala
      115          120          125
Phe Ser Asp Ala Ser Met Ala Ala Phe Asn Thr Leu Val Asn Phe Ile
      130          135          140
Tyr Ala Leu His Ser Glu Trp Tyr Phe Gly Ala Asn Tyr Cys Arg Phe
      145          150          155          160
Gln Asn Phe Phe Pro Ile Thr Ala Val Phe Ala Ser Ile Tyr Ser Met
      165          170          175
Thr Ala Ile Ala Val Asp Arg Tyr Met Ala Ile Ile Asp Pro Leu Lys
      180          185          190
Pro Arg Leu Ser Ala Thr Ala Thr Lys Ile Val Ile Gly Ser Ile Trp
      195          200          205
Ile Leu Ala Phe Leu Leu Ala Phe Pro Gln Cys Leu Tyr Ser Lys Thr
      210          215          220
Lys Val Met Pro Gly Arg Thr Leu Cys Phe Val Gln Trp Pro Glu Gly
      225          230          235          240
Pro Lys Gln His Phe Thr Tyr His Ile Ile Val Ile Ile Leu Val Tyr
      245          250          255
Cys Phe Pro Leu Leu Ile Met Gly Ile Thr Tyr Thr Ile Val Gly Ile
      260          265          270
Thr Leu Trp Gly Gly Glu Ile Pro Gly Asp Thr Cys Asp Lys Tyr His
      275          280          285
Glu Gln Leu Lys Ala Lys Arg Lys Val Val Lys Met Met Ile Ile Val
      290          295          300
Val Met Thr Phe Ala Ile Cys Trp Leu Pro Tyr His Ile Tyr Phe Ile
      305          310          315          320
Leu Thr Ala Ile Tyr Gln Gln Leu Asn Arg Trp Lys Tyr Ile Gln Gln
      325          330          335
Val Tyr Leu Ala Ser Phe Trp Leu Ala Met Ser Ser Thr Met Tyr Asn
      340          345          350
Pro Ile Ile Tyr Cys Cys Leu Asn Lys Arg Phe Arg Ala Gly Phe Lys
      355          360          365
Arg Ala Phe Arg Trp Cys Pro Phe Ile Lys Val Ser Ser Tyr Asp Glu
      370          375          380
Leu Glu Leu Lys Thr Thr Arg Phe His Pro Asn Arg Gln Ser Ser Met
  
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385 390 395 400
 Tyr Thr Val Thr Arg Met Glu Ser Met Thr Val Val Phe Asp Pro Asn
 405 410 415
 Asp Ala Asp Thr Thr Arg Ser Ser Arg Lys Lys Arg Ala Thr Pro Arg
 420 425 430
 Asp Pro Ser Phe Asn Gly Cys Ser Arg Arg Asn Ser Lys Ser Ala Ser
 435 440 445
 Ala Thr Ser Ser Phe Ile Ser Ser Pro Tyr Thr Ser Val Asp Glu Tyr
 450 455 460
 Ser Gln Pro Glu Leu Ala Pro Glu Asp Pro Glu Asp Lys His Lys Leu
 465 470 475 480
 Glu Gln Leu Arg Asn Ser Gly Ala
 485

<210> 10
 <211> 478
 <212> PRT
 <213> Human

<400> 10
 Met Asp Tyr Lys Asp Asp Asp Asp Lys Met Asn Thr Ser Ala Pro Pro
 1 5 10 15
 Ala Val Ser Pro Asn Ile Thr Val Leu Ala Pro Gly Lys Gly Pro Trp
 20 25 30
 Gln Val Ala Phe Ile Gly Ile Thr Thr Gly Leu Leu Ser Leu Ala Thr
 35 40 45
 Val Thr Gly Asn Leu Leu Val Leu Ile Ser Phe Lys Val Asn Thr Glu
 50 55 60
 Leu Lys Thr Val Asn Asn Tyr Phe Leu Leu Ser Leu Ala Cys Ala Asp
 65 70 75 80
 Leu Ile Ile Gly Thr Phe Ser Met Asn Leu Tyr Thr Thr Tyr Leu Leu
 85 90 95
 Met Gly His Trp Ala Leu Gly Thr Leu Ala Cys Asp Leu Trp Leu Ala
 100 105 110
 Leu Asp Tyr Val Ala Ser Asn Ala Ser Val Met Asn Leu Leu Leu Ile
 115 120 125
 Ser Phe Asp Arg Tyr Phe Ser Val Thr Arg Pro Leu Ser Tyr Arg Ala
 130 135 140
 Lys Arg Thr Pro Arg Arg Ala Ala Leu Met Ile Gly Leu Ala Trp Leu
 145 150 155 160
 Val Ser Phe Val Leu Trp Ala Pro Ala Ile Leu Phe Trp Gln Tyr Leu
 165 170 175
 Val Gly Glu Arg Thr Val Leu Ala Gly Gln Cys Tyr Ile Gln Phe Leu
 180 185 190
 Ser Gln Pro Ile Ile Thr Phe Gly Thr Ala Met Ala Ala Phe Tyr Leu
 195 200 205
 Pro Val Thr Val Met Cys Thr Leu Tyr Trp Arg Ile Tyr Arg Glu Thr
 210 215 220
 Glu Asn Arg Ala Arg Glu Leu Ala Ala Leu Gln Gly Ser Glu Thr Pro
 225 230 235 240
 Gly Lys Gly Gly Gly Ser Ser Ser Ser Ser Glu Arg Ser Gln Pro Gly
 245 250 255
 Ala Glu Gly Ser Pro Glu Thr Pro Pro Gly Arg Cys Cys Arg Cys Cys
 260 265 270
 Arg Ala Pro Arg Leu Leu Gln Ala Tyr Ser Trp Lys Glu Glu Glu Glu
 275 280 285

Glu Asp Glu Gly Ser Met Glu Ser Leu Thr Ser Ser Glu Gly Glu Glu
 290 295 300
 Pro Gly Ser Glu Val Val Ile Lys Met Pro Met Val Asp Pro Glu Ala
 305 310 315 320
 Gln Ala Pro Thr Lys Gln Pro Pro Arg Ser Ser Pro Asn Thr Val Lys
 325 330 335
 Arg Pro Thr Lys Lys Gly Arg Asp Arg Ala Gly Lys Gly Gln Lys Pro
 340 345 350
 Arg Gly Lys Glu Gln Leu Ala Lys Arg Lys Thr Phe Ser Leu Val Lys
 355 360 365
 Glu Lys Lys Ala Ala Arg Thr Leu Ser Ala Ile Leu Leu Ala Phe Ile
 370 375 380
 Leu Thr Trp Thr Pro Tyr Asn Ile Met Val Leu Val Ser Thr Phe Cys
 385 390 395 400
 Lys Asp Cys Val Pro Glu Thr Leu Trp Glu Leu Gly Tyr Trp Leu Cys
 405 410 415
 Tyr Val Asn Ser Thr Ile Asn Pro Met Cys Tyr Ala Leu Cys Asn Lys
 420 425 430
 Ala Phe Arg Asp Thr Phe Arg Leu Leu Leu Leu Cys Arg Trp Asp Lys
 435 440 445
 Arg Arg Trp Arg Lys Ile Pro Lys Arg Pro Gly Ser Val His Arg Thr
 450 455 460
 Pro Ser Arg Gln Cys Glu Glu Glu Glu Tyr Met Pro Met Glu
 465 470 475

<210> 11
 <211> 608
 <212> PRT
 <213> Rat

<400> 11

Met Thr Leu His Ser Asn Ser Thr Thr Ser Pro Leu Phe Pro Asn Ile
 1 5 10 15
 Ser Ser Ser Trp Val His Ser Pro Ser Glu Ala Gly Leu Pro Leu Gly
 20 25 30
 Thr Val Thr Gln Leu Gly Ser Tyr Asn Ile Ser Gln Glu Thr Gly Asn
 35 40 45
 Phe Ser Ser Asn Asp Thr Ser Ser Asp Pro Leu Gly Gly His Thr Ile
 50 55 60
 Trp Gln Val Val Phe Ile Ala Phe Leu Thr Gly Phe Leu Ala Leu Val
 65 70 75 80
 Thr Ile Ile Gly Asn Ile Leu Val Ile Val Ala Phe Lys Val Asn Lys
 85 90 95
 Gln Leu Lys Thr Val Asn Asn Tyr Phe Leu Leu Ser Leu Ala Cys Ala
 100 105 110
 Asp Leu Ile Ile Gly Val Ile Ser Met Asn Leu Phe Thr Thr Tyr Ile
 115 120 125
 Ile Met Asn Arg Trp Ala Leu Gly Asn Leu Ala Cys Asp Leu Trp Leu
 130 135 140
 Ser Ile Asp Tyr Val Ala Ser Asn Ala Ser Val Met Asn Leu Leu Val
 145 150 155 160
 Ile Ser Phe Asp Arg Tyr Phe Ser Ile Thr Arg Pro Leu Thr Tyr Arg
 165 170 175
 Ala Lys Arg Thr Thr Lys Arg Ala Gly Val Met Ile Gly Leu Ala Trp
 180 185 190
 Val Ile Ser Phe Val Leu Trp Ala Pro Ala Ile Leu Phe Trp Gln Tyr

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<210> 12
<211> 20
<212> PRT
<213> Artificial Sequence
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<220>

<223> Mellitin signal sequence

<400> 12

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Lys | Phe | Leu | Val | Asn | Val | Ala | Leu | Val | Phe | Met | Val | Val | Tyr | Ile | Ser |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Tyr | Ile | Tyr | Ala | | | | | | | | | | | | |
| | | | 20 | | | | | | | | | | | | |

<210> 13

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> GP67 signal sequence

<400> 13

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Arg | Thr | Ala | Val | Leu | Ile | Leu | Leu | Leu | Val | Arg | Phe | Ser | Glu | Pro |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

<210> 14

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Hemagglutinin signal sequence

<400> 14

| | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Lys | Thr | Ile | Ile | Ala | Leu | Ser | Tyr | Ile | Phe | Cys | Leu | Val | Phe | Ala |
| 1 | | | | 5 | | | | | 10 | | | | | 15 |

<210> 15

<211> 34

<212> PRT

<213> Rhodopsin

<400> 15

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Asn | Gly | Thr | Glu | Gly | Pro | Asn | Phe | Tyr | Val | Pro | Phe | Ser | Asn | Lys |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Thr | Gly | Val | Val | Arg | Ser | Pro | Phe | Glu | Ala | Pro | Gln | Tyr | Tyr | Leu | Ala |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Glu | Pro | | | | | | | | | | | | | | |

<210> 16

<211> 18

<212> PRT

<213> Rhodopsin

<400> 16

Gly Lys Asn Pro Leu Gly Val Arg Lys Thr Glu Thr Ser Gln Val Ala
 1 5 10 15
 Pro Ala

<210> 17
 <211> 6
 <212> PRT
 <213> Hexahistidine

<400> 17
 His His His His His His
 1 5

<210> 18
 <211> 10
 <212> PRT
 <213> Decahistidine

<400> 18
 His His His His His His His His His
 1 5 10

<210> 19
 <211> 500
 <212> PRT
 <213> Human

<400> 19
 Met Val Arg Thr Ala Val Leu Ile Leu Leu Leu Val Arg Phe Ser Glu
 1 5 10 15
 Pro Lys His Lys Leu Glu Gln Leu Arg Asn Ser Gly Ala Ala Ala Glu
 20 25 30
 Glu Glu Glu Tyr Met Pro Met Glu Met Asn Asn Ser Thr Asn Ser Ser
 35 40 45
 Asn Asn Ser Leu Ala Leu Thr Ser Pro Tyr Lys Thr Phe Glu Val Val
 50 55 60
 Phe Ile Val Leu Val Ala Gly Ser Leu Ser Leu Val Thr Ile Ile Gly
 65 70 75 80
 Asn Ile Leu Val Met Val Ser Ile Lys Val Asn Arg His Leu Gln Thr
 85 90 95
 Val Asn Asn Tyr Phe Leu Phe Ser Leu Ala Cys Ala Asp Leu Ile Ile
 100 105 110
 Gly Val Phe Ser Met Asn Leu Tyr Thr Leu Tyr Thr Val Ile Gly Tyr
 115 120 125
 Trp Pro Leu Gly Pro Val Val Cys Asp Leu Trp Leu Ala Leu Asp Tyr
 130 135 140
 Val Val Ser Asn Ala Ser Val Met Asn Leu Leu Ile Ile Ser Phe Asp
 145 150 155 160
 Arg Tyr Phe Cys Val Thr Lys Pro Leu Thr Tyr Pro Val Lys Arg Thr
 165 170 175
 Thr Lys Met Ala Gly Met Met Ile Ala Ala Ala Trp Val Leu Ser Phe
 180 185 190
 Ile Leu Trp Ala Pro Ala Ile Leu Phe Trp Gln Phe Ile Val Gly Val

```

      195              200              205
Arg Thr Val Glu Asp Gly Glu Cys Tyr Ile Gln Phe Phe Ser Asn Ala
  210              215              220
Ala Val Thr Phe Gly Thr Ala Ile Ala Ala Phe Tyr Leu Pro Val Ile
  225              230              235              240
Ile Met Thr Val Leu Tyr Trp His Ile Ser Arg Ala Ser Lys Ser Arg
      245              250              255
Ile Lys Lys Asp Lys Lys Glu Pro Val Ala Asn Gln Asp Pro Val Ser
      260              265              270
Pro Ser Leu Val Gln Gly Arg Ile Val Lys Pro Asn Asn Asn Asn Met
      275              280              285
Pro Ser Ser Asp Asp Gly Leu Glu His Asn Lys Ile Arg Asp Pro Val
      290              295              300
Thr Glu Asn Cys Val Gln Gly Glu Glu Lys Glu Ser Ser Asn Asp Ser
  305              310              315              320
Thr Ser Val Ser Ala Val Ala Ser Asn Met Arg Asp Asp Glu Ile Thr
      325              330              335
Gln Asp Glu Asn Thr Val Ser Thr Ser Leu Gly His Ser Lys Asp Glu
      340              345              350
Asn Ser Lys Gln Thr Cys Ile Arg Ile Gly Thr Lys Thr Pro Lys Ser
      355              360              365
Asp Ser Cys Thr Pro Thr Asn Thr Thr Val Glu Val Val Gly Ser Ser
      370              375              380
Gly Gln Asn Gly Asp Glu Lys Gln Asn Ile Val Ala Arg Lys Ile Val
  385              390              395              400
Lys Met Thr Lys Gln Pro Ala Lys Lys Lys Pro Pro Pro Ser Arg Glu
      405              410              415
Lys Lys Val Thr Arg Thr Ile Leu Ala Ile Leu Leu Ala Phe Ile Ile
      420              425              430
Thr Trp Ala Pro Tyr Asn Val Met Val Leu Ile Asn Thr Phe Cys Ala
      435              440              445
Pro Cys Ile Pro Asn Thr Val Trp Thr Ile Gly Tyr Trp Leu Cys Tyr
      450              455              460
Ile Asn Ser Thr Ile Asn Pro Ala Cys Tyr Ala Leu Cys Asn Ala Thr
  465              470              475              480
Phe Lys Lys Thr Phe Lys His Leu Leu Met Cys His Tyr Lys Asn Ile
      485              490              495
Gly Ala Thr Arg
      500

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<210> 20
 <211> 451
 <212> PRT
 <213> Human

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<400> 20
Met Lys Phe Leu Val Asn Val Ala Leu Val Phe Met Val Val Tyr Ile
  1              5              10              15
Ser Tyr Ile Tyr Ala Asp Tyr Lys Asp Asp Asp Asp Lys Met Gly Gln
      20              25              30
Pro Gly Asn Gly Ser Ala Phe Leu Leu Ala Pro Asn Arg Ser His Ala
      35              40              45
Pro Asp His Asp Val Thr Gln Gln Arg Asp Glu Val Trp Val Val Gly
      50              55              60
Met Gly Ile Val Met Ser Leu Ile Val Leu Ala Ile Val Phe Gly Asn
  65              70              75              80

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Val Leu Val Ile Thr Ala Ile Ala Lys Phe Glu Arg Leu Gln Thr Val
      85                      90                      95
Thr Asn Tyr Phe Ile Thr Ser Leu Ala Cys Ala Asp Leu Val Met Gly
      100                    105                    110
Leu Ala Val Val Pro Phe Gly Ala Ala His Ile Leu Met Lys Met Trp
      115                    120                    125
Thr Phe Gly Asn Phe Trp Cys Glu Phe Trp Thr Ser Ile Asp Val Leu
      130                    135                    140
Cys Val Thr Ala Ser Ile Glu Thr Leu Cys Val Ile Ala Val Asp Arg
      145                    150                    155                    160
Tyr Phe Ala Ile Thr Ser Pro Phe Lys Tyr Gln Ser Leu Leu Thr Lys
      165                    170                    175
Asn Lys Ala Arg Val Ile Ile Leu Met Val Trp Ile Val Ser Gly Leu
      180                    185                    190
Thr Ser Phe Leu Pro Ile Gln Met His Trp Tyr Arg Ala Thr His Gln
      195                    200                    205
Glu Ala Ile Asn Cys Tyr Ala Asn Glu Thr Cys Cys Asp Phe Phe Thr
      210                    215                    220
Asn Gln Ala Tyr Ala Ile Ala Ser Ser Ile Val Ser Phe Tyr Val Pro
      225                    230                    235                    240
Leu Val Ile Met Val Phe Val Tyr Ser Arg Val Phe Gln Glu Ala Lys
      245                    250                    255
Arg Gln Leu Gln Lys Ile Asp Lys Ser Glu Gly Arg Phe His Val Gln
      260                    265                    270
Asn Leu Ser Gln Val Glu Gln Asp Gly Arg Thr Gly His Gly Leu Arg
      275                    280                    285
Arg Ser Ser Lys Phe Cys Leu Lys Glu His Lys Ala Leu Lys Thr Leu
      290                    295                    300
Gly Ile Ile Met Gly Thr Phe Thr Leu Cys Trp Leu Pro Phe Phe Ile
      305                    310                    315                    320
Val Asn Ile Val His Val Ile Gln Asp Asn Leu Ile Arg Lys Glu Val
      325                    330                    335
Tyr Ile Leu Leu Asn Trp Ile Gly Tyr Val Asn Ser Gly Phe Asn Pro
      340                    345                    350
Leu Ile Tyr Cys Arg Ser Pro Asp Phe Arg Ile Ala Phe Gln Glu Leu
      355                    360                    365
Leu Cys Leu Arg Arg Ser Ser Leu Lys Ala Tyr Gly Asn Gly Tyr Ser
      370                    375                    380
Ser Asn Gly Asn Thr Gly Glu Gln Ser Gly Tyr His Val Glu Gln Glu
      385                    390                    395                    400
Lys Glu Asn Lys Leu Leu Cys Glu Asp Leu Pro Gly Thr Glu Asp Phe
      405                    410                    415
Val Gly His Gln Gly Thr Val Pro Ser Asp Asn Ile Asp Ser Gln Gly
      420                    425                    430
Arg Asn Cys Ser Thr Asn Asp Ser Leu Leu Glu Glu Glu Glu Tyr Met
      435                    440                    445
Pro Met Glu
      450

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<210> 21
 <211> 505
 <212> PRT
 <213> Human

<400> 21
 Met Lys Thr Ile Ile Ala Leu Ser Tyr Ile Phe Cys Leu Val Phe Ala

| | | | |
|---|-----|-----|-----|
| 1 | 5 | 10 | 15 |
| Met Ala Ile Leu Pro Ala Ala Glu Thr Trp Ile Asp Gly Gly Gly Gly | | | |
| Val Gly Ala Asp Ala Val Asn Leu Thr Ala Ser Leu Ala Ala Gly Ala | 20 | 25 | 30 |
| Ala Thr Gly Ala Val Glu Thr Gly Trp Leu Gln Leu Leu Asp Gln Ala | 35 | 40 | 45 |
| Gly Asn Leu Ser Ser Ser Pro Ser Ala Leu Gly Leu Pro Val Arg Ser | 50 | 55 | 60 |
| Pro Ala Pro Ser Gln Pro Trp Ala Asn Leu Thr Asn Gln Phe Val Gln | 65 | 70 | 75 |
| Pro Ser Trp Arg Ile Ala Leu Trp Ser Leu Ala Tyr Gly Val Val Val | 85 | 90 | 95 |
| Ala Val Ala Val Leu Gly Asn Leu Ile Val Ile Trp Ile Ile Leu Ala | 100 | 105 | 110 |
| His Lys Arg Met Arg Thr Val Thr Asn Tyr Phe Leu Val Asn Leu Ala | 115 | 120 | 125 |
| Phe Ser Asp Ala Ser Met Ala Ala Phe Asn Thr Leu Val Asn Phe Ile | 130 | 135 | 140 |
| Tyr Ala Leu His Ser Glu Trp Tyr Phe Gly Ala Asn Tyr Cys Arg Phe | 145 | 150 | 155 |
| Gln Asn Phe Phe Pro Ile Thr Ala Val Phe Ala Ser Ile Tyr Ser Met | 165 | 170 | 175 |
| Thr Ala Ile Ala Val Asp Arg Tyr Met Ala Ile Ile Asp Pro Leu Lys | 180 | 185 | 190 |
| Pro Arg Leu Ser Ala Thr Ala Thr Lys Ile Val Ile Gly Ser Ile Trp | 195 | 200 | 205 |
| Ile Leu Ala Phe Leu Leu Ala Phe Pro Gln Cys Leu Tyr Ser Lys Thr | 210 | 215 | 220 |
| Lys Val Met Pro Gly Arg Thr Leu Cys Phe Val Gln Trp Pro Glu Gly | 225 | 230 | 235 |
| Pro Lys Gln His Phe Thr Tyr His Ile Ile Val Ile Ile Leu Val Tyr | 245 | 250 | 255 |
| Cys Phe Pro Leu Leu Ile Met Gly Ile Thr Tyr Thr Ile Val Gly Ile | 260 | 265 | 270 |
| Thr Leu Trp Gly Gly Glu Ile Pro Gly Asp Thr Cys Asp Lys Tyr His | 275 | 280 | 285 |
| Glu Gln Leu Lys Ala Lys Arg Lys Val Val Lys Met Met Ile Ile Val | 290 | 295 | 300 |
| Val Met Thr Phe Ala Ile Cys Trp Leu Pro Tyr His Ile Tyr Phe Ile | 305 | 310 | 315 |
| Leu Thr Ala Ile Tyr Gln Gln Leu Asn Arg Trp Lys Tyr Ile Gln Gln | 325 | 330 | 335 |
| Val Tyr Leu Ala Ser Phe Trp Leu Ala Met Ser Ser Thr Met Tyr Asn | 340 | 345 | 350 |
| Pro Ile Ile Tyr Cys Cys Leu Asn Lys Arg Phe Arg Ala Gly Phe Lys | 355 | 360 | 365 |
| Arg Ala Phe Arg Trp Cys Pro Phe Ile Lys Val Ser Ser Tyr Asp Glu | 370 | 375 | 380 |
| Leu Glu Leu Lys Thr Thr Arg Phe His Pro Asn Arg Gln Ser Ser Met | 385 | 390 | 395 |
| Tyr Thr Val Thr Arg Met Glu Ser Met Thr Val Val Phe Asp Pro Asn | 405 | 410 | 415 |
| Asp Ala Asp Thr Thr Arg Ser Ser Arg Lys Lys Arg Ala Thr Pro Arg | 420 | 425 | 430 |
| Asp Pro Ser Phe Asn Gly Cys Ser Arg Arg Asn Ser Lys Ser Ala Ser | 435 | 440 | 445 |
| | 450 | 455 | 460 |

Ala Thr Ser Ser Phe Ile Ser Ser Pro Tyr Thr Ser Val Asp Glu Tyr
 465 470 475 480
 Ser Gln Pro Glu Leu Ala Pro Glu Asp Pro Glu Asp Ala Ala Lys His
 485 490 495
 Lys Leu Glu Gln Leu Arg Asn Ser Gly
 500 505

<210> 22

<211> 498

<212> PRT

<213> Human

<400> 22

Met Lys Phe Leu Val Asn Val Ala Leu Val Phe Met Val Val Tyr Ile
 1 5 10 15
 Ser Tyr Ile Tyr Ala Asp Tyr Lys Asp Asp Asp Lys Met Asn Thr
 20 25 30
 Ser Ala Pro Pro Ala Val Ser Pro Asn Ile Thr Val Leu Ala Pro Gly
 35 40 45
 Lys Gly Pro Trp Gln Val Ala Phe Ile Gly Ile Thr Thr Gly Leu Leu
 50 55 60
 Ser Leu Ala Thr Val Thr Gly Asn Leu Leu Val Leu Ile Ser Phe Lys
 65 70 75 80
 Val Asn Thr Glu Leu Lys Thr Val Asn Asn Tyr Phe Leu Leu Ser Leu
 85 90 95
 Ala Cys Ala Asp Leu Ile Ile Gly Thr Phe Ser Met Asn Leu Tyr Thr
 100 105 110
 Thr Tyr Leu Leu Met Gly His Trp Ala Leu Gly Thr Leu Ala Cys Asp
 115 120 125
 Leu Trp Leu Ala Leu Asp Tyr Val Ala Ser Asn Ala Ser Val Met Asn
 130 135 140
 Leu Leu Leu Ile Ser Phe Asp Arg Tyr Phe Ser Val Thr Arg Pro Leu
 145 150 155 160
 Ser Tyr Arg Ala Lys Arg Thr Pro Arg Arg Ala Ala Leu Met Ile Gly
 165 170 175
 Leu Ala Trp Leu Val Ser Phe Val Leu Trp Ala Pro Ala Ile Leu Phe
 180 185 190
 Trp Gln Tyr Leu Val Gly Glu Arg Thr Val Leu Ala Gly Gln Cys Tyr
 195 200 205
 Ile Gln Phe Leu Ser Gln Pro Ile Ile Thr Phe Gly Thr Ala Met Ala
 210 215 220
 Ala Phe Tyr Leu Pro Val Thr Val Met Cys Thr Leu Tyr Trp Arg Ile
 225 230 235 240
 Tyr Arg Glu Thr Glu Asn Arg Ala Arg Glu Leu Ala Ala Leu Gln Gly
 245 250 255
 Ser Glu Thr Pro Gly Lys Gly Gly Gly Ser Ser Ser Ser Ser Glu Arg
 260 265 270
 Ser Gln Pro Gly Ala Glu Gly Ser Pro Glu Thr Pro Pro Gly Arg Cys
 275 280 285
 Cys Arg Cys Cys Arg Ala Pro Arg Leu Leu Gln Ala Tyr Ser Trp Lys
 290 295 300
 Glu Glu Glu Glu Glu Asp Glu Gly Ser Met Glu Ser Leu Thr Ser Ser
 305 310 315 320
 Glu Gly Glu Glu Pro Gly Ser Glu Val Val Ile Lys Met Pro Met Val
 325 330 335
 Asp Pro Glu Ala Gln Ala Pro Thr Lys Gln Pro Pro Arg Ser Ser Pro

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          340          345          350
Asn Thr Val Lys Arg Pro Thr Lys Lys Gly Arg Asp Arg Ala Gly Lys
          355          360          365
Gly Gln Lys Pro Arg Gly Lys Glu Gln Leu Ala Lys Arg Lys Thr Phe
          370          375          380
Ser Leu Val Lys Glu Lys Lys Ala Ala Arg Thr Leu Ser Ala Ile Leu
385          390          395          400
Leu Ala Phe Ile Leu Thr Trp Thr Pro Tyr Asn Ile Met Val Leu Val
          405          410          415
Ser Thr Phe Cys Lys Asp Cys Val Pro Glu Thr Leu Trp Glu Leu Gly
          420          425          430
Tyr Trp Leu Cys Tyr Val Asn Ser Thr Ile Asn Pro Met Cys Tyr Ala
          435          440          445
Leu Cys Asn Lys Ala Phe Arg Asp Thr Phe Arg Leu Leu Leu Cys
          450          455          460
Arg Trp Asp Lys Arg Arg Trp Arg Lys Ile Pro Lys Arg Pro Gly Ser
465          470          475          480
Val His Arg Thr Pro Ser Arg Gln Cys Glu Glu Glu Glu Tyr Met Pro
          485          490          495
Met Glu

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<210> 23
 <211> 626
 <212> PRT
 <213> Rat

```

<400> 23
Met Lys Thr Ile Ile Ala Leu Ser Tyr Ile Phe Cys Leu Val Phe Ala
 1          5          10          15
Met Thr Leu His Ser Asn Ser Thr Thr Ser Pro Leu Phe Pro Asn Ile
          20          25          30
Ser Ser Ser Trp Val His Ser Pro Ser Glu Ala Gly Leu Pro Leu Gly
          35          40          45
Thr Val Thr Gln Leu Gly Ser Tyr Asn Ile Ser Gln Glu Thr Gly Asn
          50          55          60
Phe Ser Ser Asn Asp Thr Ser Ser Asp Pro Leu Gly Gly His Thr Ile
65          70          75          80
Trp Gln Val Val Phe Ile Ala Phe Leu Thr Gly Phe Leu Ala Leu Val
          85          90          95
Thr Ile Ile Gly Asn Ile Leu Val Ile Val Ala Phe Lys Val Asn Lys
          100          105          110
Gln Leu Lys Thr Val Asn Asn Tyr Phe Leu Leu Ser Leu Ala Cys Ala
          115          120          125
Asp Leu Ile Ile Gly Val Ile Ser Met Asn Leu Phe Thr Thr Tyr Ile
          130          135          140
Ile Met Asn Arg Trp Ala Leu Gly Asn Leu Ala Cys Asp Leu Trp Leu
145          150          155          160
Ser Ile Asp Tyr Val Ala Ser Asn Ala Ser Val Met Asn Leu Leu Val
          165          170          175
Ile Ser Phe Asp Arg Tyr Phe Ser Ile Thr Arg Pro Leu Thr Val Arg
          180          185          190
Ala Lys Arg Thr Thr Lys Arg Arg Gly Val Met Ile Gly Leu Ala Trp
          195          200          205
Val Ile Ser Phe Val Leu Trp Ala Pro Ala Ile Leu Phe Trp Gln Tyr
          210          215          220

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Phe Val Gly Lys Arg Thr Val Pro Pro Gly Glu Cys Phe Ile Gln Phe
 225 230 235 240
 Leu Ser Glu Pro Thr Ile Thr Phe Gly Thr Ala Ile Ala Ala Phe Tyr
 245 250 255
 Met Pro Val Thr Ile Met Thr Ile Leu Tyr Trp Arg Ile Tyr Lys Glu
 260 265 270
 Thr Glu Lys Arg Thr Lys Glu Leu Ala Gly Leu Gln Ala Ser Gly Thr
 275 280 285
 Glu Ala Glu Ala Glu Asn Phe Val His Pro Thr Gly Ser Ser Arg Ser
 290 295 300
 Cys Ser Ser Tyr Glu Leu Gln Gln Gly Val Lys Arg Ser Ser Arg
 305 310 315 320
 Arg Lys Tyr Gly Arg Cys His Phe Trp Phe Thr Thr Lys Ser Trp Lys
 325 330 335
 Pro Ser Ala Glu Gln Met Asp Gln Asp His Ser Ser Ser Asp Ser Trp
 340 345 350
 Asn Asn Asn Asp Ala Ala Ala Ser Leu Glu Asn Ser Ala Ser Ser Asp
 355 360 365
 Glu Glu Asp Ile Gly Ser Glu Thr Arg Ala Ile Tyr Ser Ile Val Leu
 370 375 380
 Lys Leu Pro Gly His Ser Ser Ile Leu Asn Ser Thr Lys Leu Pro Ser
 385 390 395 400
 Ser Asp Asn Leu Gln Val Ser Asn Glu Asp Leu Gly Thr Val Asp Val
 405 410 415
 Glu Arg Asn Ala His Lys Leu Gln Ala Gln Lys Ser Met Gly Asp Gly
 420 425 430
 Asp Asn Cys Gln Lys Asp Phe Thr Lys Leu Pro Ile Gln Leu Glu Ser
 435 440 445
 Ala Val Asp Thr Gly Lys Thr Ser Asp Thr Asn Ser Ser Ala Asp Lys
 450 455 460
 Thr Thr Ala Thr Leu Pro Leu Ser Phe Lys Glu Ala Thr Leu Ala Lys
 465 470 475 480
 Arg Phe Ala Leu Lys Thr Arg Ser Gln Ile Thr Lys Arg Lys Arg Met
 485 490 495
 Ser Leu Ile Lys Glu Lys Lys Ala Ala Gln Thr Leu Ser Ala Ile Leu
 500 505 510
 Leu Ala Phe Ile Ile Thr Trp Thr Pro Tyr Asn Ile Met Val Leu Val
 515 520 525
 Asn Thr Phe Cys Asp Ser Cys Ile Pro Lys Thr Tyr Trp Asn Leu Gly
 530 535 540
 Tyr Trp Leu Cys Tyr Ile Asn Ser Thr Val Asn Pro Val Cys Tyr Ala
 545 550 555 560
 Leu Cys Asn Lys Thr Phe Arg Thr Thr Phe Lys Thr Leu Leu Leu Cys
 565 570 575
 Gln Cys Asp Lys Arg Lys Arg Arg Lys Gln Gln Tyr Gln Gln Arg Gln
 580 585 590
 Ser Val Ile Phe His Lys Arg Val Pro Glu Gln Ala Leu Gln Pro Glu
 595 600 605
 Leu Ala Pro Glu Asp Pro Glu Asp Ala Ala His His His His His His
 610 615 620
 His His
 625

<210> 24

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> Mellitin signal sequence

<400> 24

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Lys | Phe | Leu | Val | Asn | Val | Ala | Leu | Val | Phe | Met | Val | Val | Tyr | Ile |
| 1 | | | | 5 | | | | 10 | | | | | | 15 | |
| Ser | Tyr | Ile | Tyr | Ala | | | | | | | | | | | |
| | | | 20 | | | | | | | | | | | | |

<210> 25

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> GP67 signal sequence

<400> 25

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Val | Arg | Thr | Ala | Val | Leu | Ile | Leu | Leu | Leu | Val | Arg | Phe | Ser | Glu |
| 1 | | | | 5 | | | | 10 | | | | | | 15 | |
| Pro | | | | | | | | | | | | | | | |

<210> 26

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Hemagglutinin signal sequence

<400> 26

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Lys | Thr | Ile | Ile | Ala | Leu | Ser | Tyr | Ile | Phe | Cys | Leu | Val | Phe | Ala |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

<210> 27

<211> 35

<212> PRT

<213> Rhodopsin

<400> 27

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Met | Asn | Gly | Thr | Glu | Gly | Pro | Asn | Phe | Tyr | Val | Pro | Phe | Ser | Asn |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Lys | Thr | Gly | Val | Val | Arg | Ser | Pro | Phe | Glu | Ala | Pro | Gln | Tyr | Tyr | Leu |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Ala | Glu | Pro | | | | | | | | | | | | | |
| | | 35 | | | | | | | | | | | | | |

<210> 28

<211> 19

<212> PRT

<213> Rhodopsin

<400> 28

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Gly | Lys | Asn | Pro | Leu | Gly | Val | Arg | Lys | Thr | Glu | Thr | Ser | Gln | Val |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Ala | Pro | Ala | | | | | | | | | | | | | |

<210> 29

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> epitope FLAG tag sequence

<400> 29

| | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|
| Asp | Tyr | Lys | Asp | Asp | Asp | Asp | Lys |
| 1 | | | 5 | | | | |

<210> 30

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> epitope EE tag sequence

<400> 30

| | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Glu | Glu | Glu | Glu | Tyr | Met | Pro | Met | Glu |
| 1 | | | | 5 | | | | |

<210> 31

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> epitope hemmagglutinin tag sequence

<400> 31

| | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Tyr | Pro | Tyr | Asp | Val | Pro | Asp | Tyr | Ala |
| 1 | | | | 5 | | | | |

<210> 32

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> epitope MYC tag sequence

<400> 32

Lys His Lys Leu Glu Gln Leu Arg Asn Ser Gly Ala
 1 5 10

<210> 33
 <211> 11
 <212> PRT
 <213> Herpes simplex virus

<400> 33
 Gln Pro Glu Leu Ala Pro Glu Asp Pro Glu Asp
 1 5 10

<210> 34
 <211> 496
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Met-Melitin SS-FLAG M1 tag-m2 mAChR sequence

<400> 34
 Met Lys Phe Leu Val Asn Val Ala Leu Val Phe Met Val Val Tyr Ile
 1 5 10 15
 Ser Tyr Ile Tyr Ala Asp Tyr Lys Asp Asp Asp Lys Met Met Asn
 20 25 30
 Asn Ser Thr Asn Ser Ser Asn Ser Gly Leu Ala Leu Thr Ser Pro Tyr
 35 40 45
 Lys Thr Phe Glu Val Val Phe Ile Val Leu Val Ala Gly Ser Leu Ser
 50 55 60
 Leu Val Thr Ile Ile Gly Asn Ile Leu Val Met Val Ser Ile Lys Val
 65 70 75 80
 Asn Arg His Leu Gln Thr Val Asn Asn Tyr Phe Leu Phe Ser Leu Ala
 85 90 95
 Cys Ala Asp Leu Ile Ile Gly Val Phe Ser Met Asn Leu Tyr Thr Leu
 100 105 110
 Tyr Thr Val Ile Gly Tyr Trp Pro Leu Gly Pro Val Val Cys Asp Leu
 115 120 125
 Trp Leu Ala Leu Asp Tyr Val Val Ser Asn Ala Ser Val Met Asn Leu
 130 135 140
 Leu Ile Ile Ser Phe Asp Arg Tyr Phe Cys Val Thr Lys Pro Leu Thr
 145 150 155 160
 Tyr Pro Val Lys Arg Thr Thr Lys Met Ala Gly Met Met Ile Ala Ala
 165 170 175
 Ala Trp Val Leu Ser Phe Ile Leu Trp Ala Pro Ala Ile Leu Phe Trp
 180 185 190
 Gln Phe Ile Val Gly Val Arg Thr Val Glu Asp Gly Glu Cys Tyr Ile
 195 200 205
 Gln Phe Phe Ser Asn Ala Ala Val Thr Phe Gly Thr Ala Ile Ala Ala
 210 215 220
 Phe Tyr Leu Pro Val Ile Ile Met Thr Val Leu Tyr Trp His Ile Ser
 225 230 235 240
 Arg Ala Ser Lys Ser Arg Ile Lys Lys Asp Lys Lys Glu Pro Val Ala
 245 250 255
 Asn Gln Glu Pro Val Ser Pro Ser Leu Val Gln Gly Arg Ile Val Lys
 260 265 270

Pro Asn Asn Asn Asn Met Pro Gly Ser Asp Glu Ala Leu Glu His Asn
 275 280 285
 Lys Ile Gln Asn Gly Lys Ala Pro Arg Asp Ala Val Thr Glu Asn Cys
 290 295 300
 Val Gln Gly Glu Glu Lys Glu Ser Ser Asn Asp Ser Thr Ser Val Ser
 305 310 315 320
 Ala Val Ala Ser Asn Met Arg Asp Asp Glu Ile Thr Gln Asp Glu Asn
 325 330 335
 Thr Val Ser Thr Ser Leu Gly His Ser Lys Asp Glu Asn Ser Lys Gln
 340 345 350
 Thr Cys Ile Lys Ile Val Thr Lys Thr Gln Lys Ser Asp Ser Cys Thr
 355 360 365
 Pro Ala Asn Thr Thr Val Glu Leu Val Gly Ser Ser Gly Gln Asn Gly
 370 375 380
 Asp Glu Lys Gln Asn Ile Val Ala Arg Lys Ile Val Lys Met Thr Lys
 385 390 395 400
 Gln Pro Ala Lys Lys Lys Pro Pro Pro Ser Arg Glu Lys Lys Val Thr
 405 410 415
 Arg Thr Ile Leu Ala Ile Leu Leu Ala Phe Ile Ile Thr Trp Ala Pro
 420 425 430
 Tyr Asn Val Met Val Leu Ile Asn Thr Phe Cys Ala Pro Cys Ile Pro
 435 440 445
 Asn Thr Val Trp Thr Ile Gly Tyr Trp Leu Cys Tyr Ile Asn Ser Thr
 450 455 460
 Ile Asn Pro Ala Cys Tyr Ala Leu Cys Asn Ala Thr Phe Lys Lys Thr
 465 470 475 480
 Phe Lys His Leu Leu Met Cys His Tyr Lys Asn Ile Gly Ala Thr Arg
 485 490 495